

DRAFT
ENVIRONMENTAL ASSESSMENT
and
FINDING OF NO SIGNIFICANT IMPACT

for the

VILLAGE OF BOSQUE FARMS,
NEW MEXICO

WASTEWATER SERVICE IMPROVEMENT PROJECT

January 15, 2004



**US Army Corps
of Engineers®**
Albuquerque District



VILLAGE OF BOSQUE FARMS
1455 West Bosque Loop • Bosque Farms, NM 87068

Finding of No Significant Impact
Bosque Farms Wastewater Service Improvement
Village of Bosque Farms, New Mexico
January 15, 2004

The U.S. Army Corps of Engineers (Corps), Albuquerque District, in cooperation with and at the request of the Village of Bosque Farms, New Mexico, is planning a project that would improve wastewater service to residents currently using on-site disposal systems such as septic tanks and leachfields. A second clarifier would also be added to the existing wastewater treatment plant to enhance the maintenance and operation of the primary clarifier. The construction work would be conducted under Section 593 of the Water Resources Development Act of 1996 (Public Law 99-662; 33 U.S.C. 2201 et. seq.), as amended. The Act authorizes the Corps to provide assistance for design and construction for water-related environmental infrastructure and resource protection and development projects in central New Mexico. The Village of Bosque Farms is the local sponsor.

The proposed project would alleviate some of the current groundwater contamination and associated health concerns that are occurring due to on-site disposal systems. The proposed project area is located near the northern boundary of Valencia County, approximately eighteen miles south of Albuquerque. Construction design of the new wastewater system would consist of approximately 26,800 feet of pipe, one ditch crossing, and 220 service connections extended in street rights-of-way. The second clarifier would be added to the existing wastewater treatment plant. The proposed project area is bounded in general by the Tome Drain to the east, the Rio Grande to the west, Isleta Pueblo to the north and the Village limits to the south.

The Corps conducted a literature and data search and a cultural resources inventory survey for the project area. No artifacts or cultural resource manifestations were observed during the survey. The data search found that several archaeological sites and historic structures are known to occur within or near the community of Bosque Farms. None of these sites or structures will be affected by the construction project. Based on existing documentation and the results of the cultural resources survey, as presented in the project's cultural resources survey report, the Corps is of the opinion that there would be "No Historic Properties Effected" by the construction project.

The potential effects of the proposed action are similar to the no-action alternative, with the caveat that the no-action alternative would result in further degradation of the groundwater and the accompanying health concerns associated with this.

The proposed work would not affect waters of the United States regulated by Section 404 of the Clean Water Act (CWA); therefore a Section 404 Department of the Army (DA) permit would not be needed for the project. Although the construction of the wastewater service improvement would occur in a floodplain, the work would not significantly alter any natural feature or use of the area. Therefore, the planned action is consistent with Executive Order 11988 (Floodplain Management). The proposed work complies with Executive Order 11990 (Protection of Wetlands) as no wetlands are within the project area.

Only short-term negligible adverse impacts to land use, aesthetics, soils, air, noise, vegetation, wildlife, and human health and safety could occur during construction. No impacts would occur to land use (long-term), climate, soils (long-term), air (long-term), wetlands or other waters of the U.S., floodplains, special status species, socioeconomics, or cultural resources. Human health, environmental justice, and cumulative impacts would all be impacted beneficially and would be long-lasting. The proposed project would not result in any moderate or significant, short-term, long-term, or cumulative adverse effects, and, therefore, is recommended.

The planned action has been fully coordinated with federal, state, tribal, and local agencies with jurisdiction over the ecological, cultural, and hydrological resources of the project area. Based upon these factors and others discussed in detail in the Environmental Assessment, the planned action would not have a significant effect on the human environment. Therefore, an Environmental Impact Statement will not be prepared for the Bosque Farms Wastewater Service Improvement.

Date

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1.0 INTRODUCTION

1.1 Background and Location

The United States Army Corps of Engineers, Albuquerque District, in cooperation with and at the request of the Village of Bosque Farms, New Mexico, is planning a project that would provide a wastewater collection system to the remaining residents currently using on-site disposal systems such as septic tanks and leachfields. A second clarifier would also be added to the existing wastewater treatment plant. It would be used as a backup clarifier during times of enhancing the operation and maintenance of the primary clarifier.

The rehabilitation work would be conducted under Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 et seq.) as amended. The Act authorizes the United States Army Corps of Engineers to provide assistance in the form of design and construction for water-related environmental infrastructure, resource protection, and development projects in central New Mexico, which is defined within the Act as the counties of Bernalillo, Sandoval, and Valencia. Types of projects included under the Act are: Wastewater treatment and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development.

Provisions under the Act require that the project be publicly owned to receive Federal assistance. As such, the non-Federal project sponsor is the Village of Bosque Farms, Valencia County, New Mexico. The Act further requires that a cooperative agreement be established between the Federal and non-Federal interests. In general, the Federal share of project costs under each cooperative agreement entered into under subsection three (3) of the Act is 75 percent of the total project costs.

The proposed project area, located in the Village of Bosque Farms, in Valencia County, New Mexico, is shown in Figures 1 and 2. The project area is bounded in general by the Tome Drain to the east, the Rio Grande to the west, Isleta Pueblo to the north and the Village limits to the south.

1.2 Purpose and Need

Until 1999, the Bosque Farms' community utilized only on-site disposal systems such as septic tanks and leachfields or cesspools for wastewater disposal. In 1999, the Village of Bosque Farms, through Environmental Protection Agency (EPA) Grant funds, constructed a wastewater collection system and a wastewater treatment plant. The purpose of this project was to alleviate the existing public health concerns and potential for groundwater contamination. Due to limited funding at the time, the wastewater collection system was planned in phases for specific areas in order to ultimately provide needed wastewater service for the entire planning area. Beginning phases of the project adequately addressed the needs of the most densely populated areas (these areas are shown in Figure 2 not designated with the "service area" label). The proposed construction work for the collection system is now planned as phases VI-IX. These phases would extend the collection system to the remaining residents still on septic tanks.

The need for a second clarifier in the existing wastewater treatment plant would serve as a

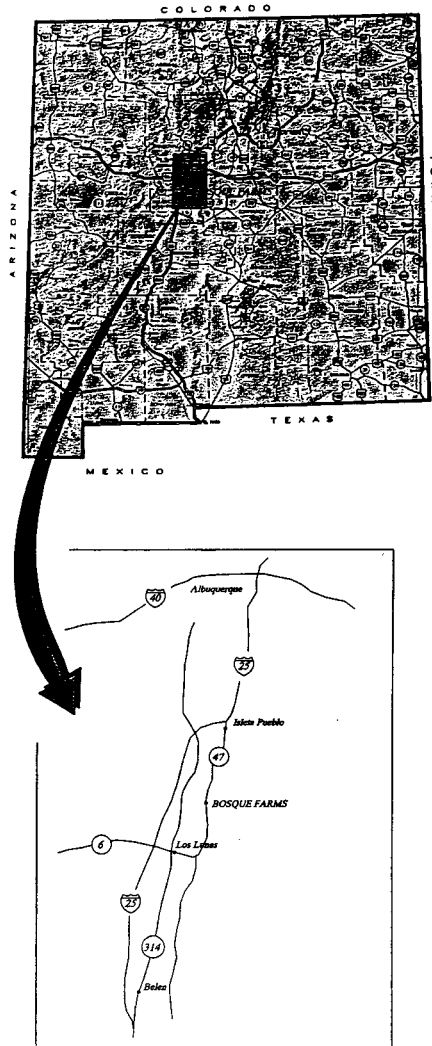


Figure 1 Location Map of Village of Bosque Farms

backup during times of enhancing the operation and maintenance of the primary clarifier (a clarifier is a large circular or rectangular tank or basin in which water is held for a period of time, during which the heavier suspended solids settle to the bottom). During the time when repair work is required for the clarifier, the wastewater treatment plant cannot work effectively.

1.3 Regulatory Compliance

This Environmental Assessment was prepared by the U.S. Army Corps of Engineers, Albuquerque District, in compliance with all applicable Federal Statutes, Regulations, and Executive Orders, including the following:

- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470)
- Clean Air Act of 1972, as amended (42 U.S.C. 7401 *et seq.*)
- Clean Water Act of 1972 and Amendments of 1977 (CWA)
- Endangered Species Act of 1973, (ESA) as amended (16 U.S.C. 1531 *et seq.*)
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, 1994.
- Fish and Wildlife Coordination Act of 1958, as amended (16 U.S.C. 661 *et seq.*)
- Floodplain Management (Executive Order 11988)
- National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*)
- Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500 *et seq.*)
- National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 *et seq.*)
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 *et seq.*)
- Protection and Enhancement of the Cultural Environment (Executive Order 11593)
- Protection of Wetlands (Executive Order 11990)
- Procedures for Implementing NEPA (33 CFR 230; ER 200-2-2)

This Environmental Assessment also reflects compliance with all applicable State of New Mexico and local regulations, statutes, policies, and standards for conserving the environment such as water and air quality, endangered plants and animals, and cultural resources.

2.0 PROPOSED ACTION AND ALTERNATIVES

All Federal agencies that assist or take part in projects that utilize funding are mandated by the National Environmental Policy Act (NEPA) to evaluate alternative courses of action. Typically, alternatives are a set of different locations that satisfy certain defined project criterion. However, alternatives can also include design considerations and/or attributes that may mitigate or reduce impacts generated by a given action. In general, alternatives, including a No-Action alternative, can provide decision makers with an evaluation on the present and future conditions with regard to the implementation of an action at a given site, time, or including particular design characteristics. Information and knowledge yielded from alternative evaluations can then guide decision-making processes such that they are made in the best interest of the public and

environment.

2.1 Proposed Action

The proposed action would include Phases VI through IX and would entail construction of a new wastewater collection system. This system would consist of approximately 26,800 feet of 2- and 4-inch pressure sewer pipe, one ditch crossing, and approximately 220 service connections extended to street rights-of-way. The project has been separated into four (4) phases as follows: Phase VI – Becky Court, Mitchell Drive, Beall Street, Ranchero Road, Palomino Place, and Appaloosa Place; Phase VII – Country Lane, Foxcroft Loop, and Sherrie Lane; Phase VIII – Braught Road, Caballo Lane, Edgewood Road, Garcia Lane, and Del Norte Court; and Phase IX – Coal Road, Green Road, Smith Place, Dolly Lane, Braught Lane, and Truchas Drive. The following phases are designated as service areas in Figure 2. Also, site visit photos of most of these service areas are shown in Appendix B. A second clarifier would be added to the existing wastewater treatment plant to enhance the operation and maintenance of the primary clarifier.

There are three areas that have been identified for staging. One is located on the southern end of the Village. This area is fenced and fairly disturbed. The ground is covered in gravel material and little vegetation exists. The second area is located on the northern end of the Village. It is also fenced and fairly disturbed. This area has been an open field for many years and was used as a dumping area for dirt waste. There is minimal vegetation. The third area is a parcel south of the wastewater treatment plant.

2.2 The No-Action Alternative

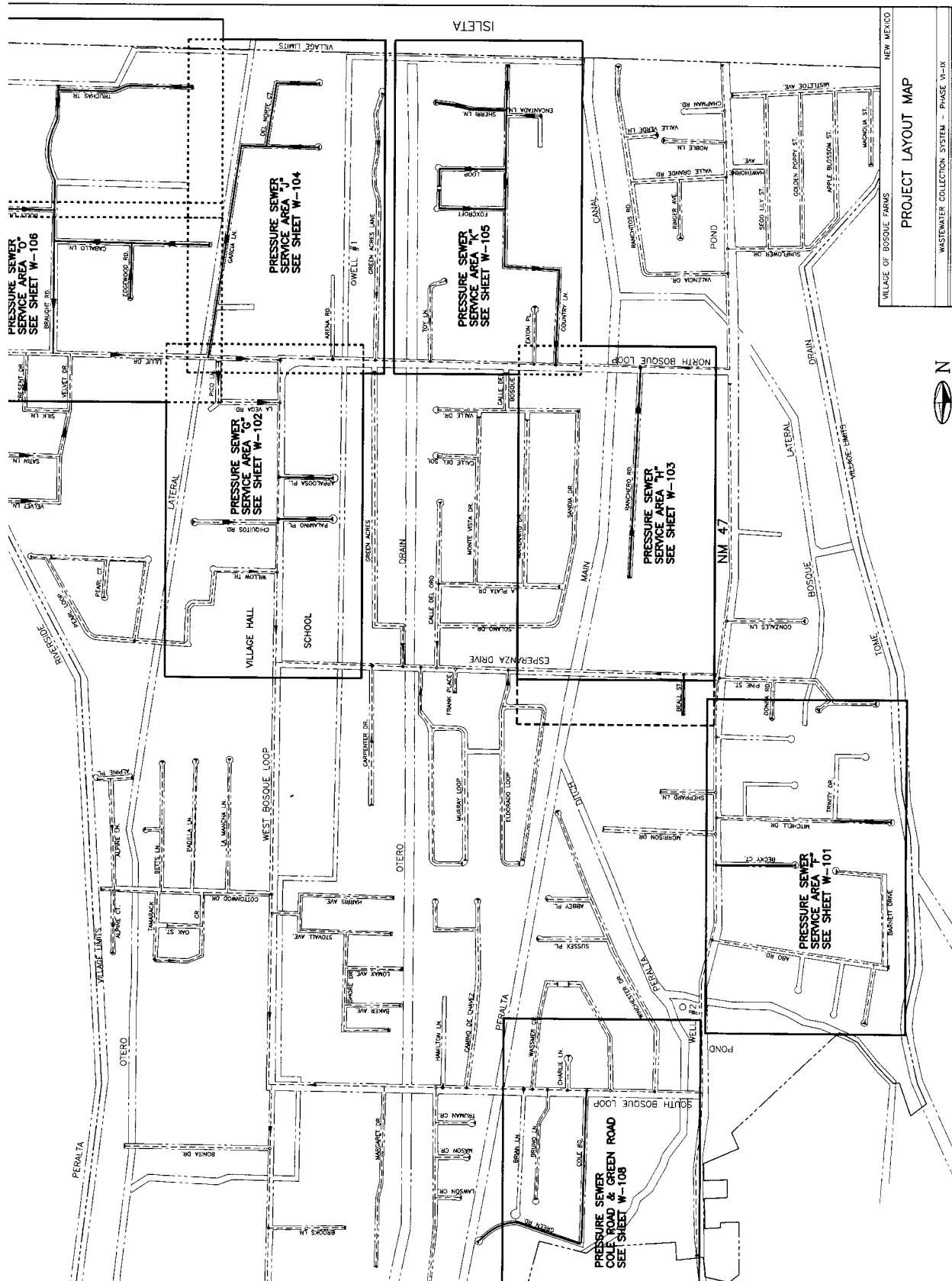
Under the no-action alternative, there would not be any new construction or modification to the existing facility or any of the associated wastewater treatment equipment. No federal funding would be expended and there would be no new effects to the project site or surrounding environment. However, the no-action alternative should be perceived as an environmentally unsound course of action with regard to the many concerted efforts at improving the water quality in Bosque Farms. Without the construction of new collection lines, further degradation of the groundwater and the accompanying health concerns associated with existing conditions would continue. Without the installation of a second clarifier, the wastewater treatment plant would not work efficiently during times of maintenance.

3.0 EXISTING ENVIRONMENTAL AND FORESEEABLE EFFECTS

3.1 Physical Resources

3.1.1 Physiography, Geology, and Soils

The proposed project is in the Middle Rio Grande Valley, a wide floodplain of fertile bottomland (USDA 1977). The fertile soils and shallow water table support vegetation as well as a variety of resident and migratory wildlife. The Middle Rio Grande Valley is a productive agricultural area that supports the urban areas of Albuquerque, Bosque Farms, Los Lunas and Belen, New Mexico, as well as several other smaller communities.



The Rio Grande follows a well-defined geologic feature called the Rio Grande graben. The Rio Grande graben contains several thousand feet of poorly consolidated sediment of the Santa Fe Group of the middle Miocene to Pleistocene age (USDA 1977).

The terrain in the area is characterized by gently sloping plains from the east to the Rio Grande. Elevations range from about 4,860 feet to 4,875 feet. Water tables are typically 4 to 5 feet in depth and permeability is moderate. The general soil conditions are deep, nearly level, well drained soils that are formed in recent alluvium, on flood plains of the Rio Grande (USDA 1977). The project area consists of the Agua, Gila, and Vinton series soils. Slopes are 0 to 1 percent. More specific analysis of the soils has shown that the suitability of soils for on-site disposal systems is very poor in this area. Much of the soils consist of clay loams and some sandy loams, which are not well suited for this purpose.

3.1.2 Climate

The Middle Rio Grande Valley is part of the National Weather Service's Southern Desert Regional Zone. This is a semiarid region with seasonal peaks in precipitation and seasonal variations in temperature. It is an area of low annual precipitation, low humidity, and high evaporation. The following information is derived primarily from the Wastewater Facilities Plan and Environmental Information Document for Bosque Farms (Molzen-Corbin & Associates 1995).

Temperature

July is the hottest month and January is the coldest. Daytime temperatures in excess of 80 degrees Fahrenheit are expected on most of the days during June, July, and August. The coldest three-month period runs from the end of November to the end of February. The coldest month average temperature is approximately 20 degrees Fahrenheit. The growing season is about five and a half months long. The last freeze date in spring is May 2 and the first freeze date in fall is October 25 (USDA 1977).

Annual Precipitation

New Mexico is one of the driest states. All of New Mexico's moisture comes to the state from the Pacific Ocean to the west or the Gulf of Mexico to the southeast. The moisture must travel over long distances of dry land masses, where much of the moisture is lost to evaporation. The average annual precipitation in Bosque Farms is 9.9 inches. The average monthly precipitation ranges from 0.42 inches in February to 1.89 inches in August.

Evaporation

Within New Mexico, potential evaporation exceeds actual precipitation in all but a few areas. The rate of evaporation varies seasonally. Peak evaporation is reached in the summer months; however, actual evaporation at this time is generally less than potential evaporation. Often, there is insufficient moisture to reach actual evaporation rates. Data from Albuquerque indicates that the average evaporation in the area is approximately 94 inches annually.

Wind

Wind speed in central New Mexico varies daily and seasonally. Generally, April is the

windiest month in New Mexico. In the spring, the heating of the ground intensifies, creating updrafts. These updrafts intersect with high-velocity upper level winds and divert them down to the ground, where they maintain a considerable horizontal momentum. In the summer, these upper-level winds change and are not as easily affected by updrafts. In the winter, the ground is generally too cool to produce significant updrafts. Prevailing winds in the area are from the west; however, local effects and conventional storms may greatly effect wind direction.

3.1.3 Water Resources

Section 402 of the Clean Water Act (CWA; 33 U.S.C. 1251 *et seq.*) as amended, regulates point-source discharges of pollutants into waters of the United States and specifies that storm-water discharges associated with construction activities shall be conducted under NPDES guidance. Construction activities associated with storm-water discharges are characterized by such things as clearing, grading, and excavation, subjecting the underlying soils to erosion by storm-water, which results in a disturbance to one (1) or more acres of land. The NPDES general permit guidance would apply to this project because the total project area is greater than one acre. Therefore, a Storm Water Pollution Prevention Plan (SWPPP) is required and would be prepared for this project. Impacts from storm-water are expected to be negligible. Sections 404 and 401 of the CWA do not apply to this project, as there would be no discharge of dredged or fill material into waters of the United States.

3.1.4 Groundwater

Beneficial impacts to groundwater quality are expected to occur from the proposed project. Currently, the project area is served only by on-site disposal systems such as septic tanks and leachfields or cesspools for wastewater disposal. Health concerns have been expressed about the failure of these systems and the likely possibility of groundwater contamination. The construction of a new wastewater collection system would help to alleviate further degradation of the groundwater and the accompanying health concerns associated with this. The no action alternative would do nothing to improve groundwater quality and would accompany the continuation of possible groundwater contamination.

3.1.5 Flood Plains and Wetlands.

Executive Order 11988 (Flood Plain Management) provides Federal guidance for activities within the flood plains of inland and coastal waters. The entire planning area is inside the Rio Grande flood plain. The area between the Rio Grande and the Peralta Main Canal is in the 100-year floodplain. The area between the Peralta Main Canal and the Tome Drain to the east is in the 500-year floodplain. The proposed construction takes place entirely on street rights-of-way or already disturbed/developed ground. Therefore, the proposed project does not constitute any alterations or development within the historical floodplain and would have no new impacts to the historical or current flood plains. Executive Order 11990 (Protection of Wetlands) requires the avoidance, to the greatest extent possible, of both long and short-term impacts associated with the destruction, modification, or other disturbance of wetland habitats. There are no wetlands within the project area, and therefore, no impacts to wetlands would occur.

3.1.6 Air Quality, Noise, and Aesthetics

The Bosque Farms area is in New Mexico's Air Quality Control Region No. 2 for air quality monitoring and Valencia County is "in attainment" (does not exceed State and Federal Environmental Protection Agency air quality standards) for all criteria pollutants (NMED/ABQ 1995). Air quality in the project area is generally good. The closest Class I area is Bosque del Apache National Wildlife Refuge approximately 29 kilometers (18 miles) to the south of the proposed project area. All vehicles involved in transporting rubble and spoil from the project site to the deposition area will be required to have passed a current New Mexico emissions test and have required emission control equipment. Air quality in Valencia County and the National Wildlife Refuge would not be affected by the proposed project or by the no-action alternative.

The project activity would result in a temporary but negligible increase in suspended dust particles from construction activities. However, BMPs (Best Management Practices) would implement equipment with water sprinklers during construction to minimize road dust. In the long term, the recommended alternative would have no effect on air quality. The no-action alternative would have no effect on existing conditions.

Background noise levels in the proposed project area are low. During construction, noise would temporarily increase in the vicinity during vehicle and equipment operation. However, this increase would be minor and temporary, ending when construction is complete. Therefore, negligible effects are foreseen as a result of project implementation. The no-action alternative would have no effect on existing conditions.

Terrain of the project area is characterized by residential areas, farmland, streets, etc., typical of a mixed rural/urban area. The area is not unique and is not scenic. All of the proposed construction work would take place along the street right-of-ways, which consist of graveled areas, landscape material, and disturbed vegetation. The collection lines would be placed underground and would not be visible. The area receives minimal recreation use with the intent of viewing scenery. The recommended plan and the no-action alternative would have no effect on aesthetic values or scenic quality in the area.

3.2 Biological Resources

3.2.1 Vegetation Communities

This area is typical of the Rio Grande Valley with development encroaching on irrigated cropland. The crops consist predominantly of corn, hay, and alfalfa. The potential in this area for wildlife and endangered species is minimal due to the soil conditions and urban development. The collection lines and the addition of the second clarifier to the wastewater treatment plant would be located in disturbed areas where urbanization has developed over the years. A site visit on 17 September 2003 by Corps personnel observed vegetation consisting of goosegrass (*Eleusine indica*), common purslane (*Portulaca oleracea*), purple aster (*Machaeranthera canescens*), Siberian elm (*Ulmus pumila*), yellow foxtail (*Setaria glauca*), wild oat (*Avena fatua* L.), kochia (*Kochia scoparia*), tumble pigweed (*Amaranthus albus* L.), field horsetail (*Equisetum arvense* L.), tall fescue (*Festuca arundinacea*), barnyardgrass (*Echinochloa crus-galli* L.), scarlet

globemallow (*Sphaeralcea coccinea*), Johnsongrass (*Sorghum halepense*), palmer amaranth (*Amaranthus palmeri*), gromwell corn (*Lithospermum arvense* L.), horseweed (*Conyza Canadensis* L.), field bindweed (*Convolvulus arvensis* L.), witchgrass (*Panicum capillare* L.), silverleaf nightshade (*Solanum elaeagnifolium*), common sunflower (*Helianthus annuus* L.), broom snakeweed (*Gutierrezia scarothrae*), puncturevine (*Tribulus terrestris* L.), and Douglas' snakeweed (*Chrysothamnus viscidiflorus*).

3.2.2 Wildlife

Wildlife species in the adjacent riparian areas are typical for the Middle Rio Grande Valley. Neotropical migrants and resident avian species frequent the area and live within the Bosque. According to Brown (1982) these species may include: Cooper's Hawk (*Accipiter cooperii*), Red-Tailed Hawk (*Buteo jamaicensis*), Great-Horned Owl (*Bubo virginianus*), Turkey Vulture (*Cathartes aura*), Greater Roadrunner (*Geococcyx californianus*), Downy Woodpecker (*Picoides pubescens*), Belted Kingfisher (*Ceryle alcyon*), White-Crowned Sparrow (*Zonotrichia leucophrys*), American Crow (*Corvus brachyrhynchos*), White-Breasted Nuthatch (*Sitta carolinensis*), Summer Tanager (*Piranga rubra*), Black-Headed Grosbeak (*Pheucticus melanocephalus*), House Finch (*Carpodacus mexicanus*), American Robin (*Turdus migratorius*), Black-Crowned Night Heron (*Nycticorax nycticorax*), Black-Chinned Hummingbird (*Archilochus alexandri*), Rufous Hummingbird (*Selasphorus rufus*), Broad-Tailed Hummingbird (*Selasphorus platycercus*), Pied-Billed Grebe (*Podilymbus podiceps*), Common Merganser (*Mergus merganser*), Canada Goose (*Branta canadensis*), and various waterfowl (*Anas spp*, *Aythya spp*, *Oxyura jamaicensis*, *Aix sponsa*). In addition, various mammals and reptiles such as mice, rabbits, skunks, coyote, beaver, and lizards, also inhabit and transit the project area.

Because the project area is located on the side of paved roads, minimal wildlife would be displaced during construction. No significant impacts should occur to wildlife as a result from the construction or implementation of the proposed project.

3.2.3 Special Status Species

While all Federal, State, and Tribal agencies have a responsibility for the protection and conservation of plant and animal species in the proposed project area, three agencies have this task as their primary responsibility. The United States Fish and Wildlife Service (USFWS), under authority of the Endangered Species Act of 1973 (16 U.S.C. 1531), as amended, has the responsibility for Federal listed species. The New Mexico Department of Game and Fish (NMDGF) has the responsibility for state-listed wildlife species. The New Mexico Department of Minerals, Natural Resources, and Forestry Division has the responsibility for maintaining the list of state-listed endangered plant species. Each agency maintains a continually updated list of species, which are classified, or are candidates for classification, as protected based on their present status and potential threats to future survival and recruitment into viable breeding populations. These types of status rankings represent an expression of threat level to a given species survival as a whole and/or within local or discrete populations. Species that potentially occur in Valencia County and may occur near the proposed project area are listed below in Table 1.

Table 1. Special Status Species Listed for Valencia County, New Mexico, that has the Potential to Occur in the Vicinity of the Proposed Project Area.

Common Name	Scientific Name	Federal Status (USFWS)^a	State of New Mexico status (NMDGF)^b
Animals			
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	---
Rio Grande silvery minnow	<i>Hybognathus amarus</i>	E	E
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	E
Whooping crane	<i>Grus americana</i>	E	E
Neotropic cormorant	<i>Phalacrocorax brasilianus</i>	---	T
Common black-hawk	<i>Buteogallus anthracinus anthracinus</i>	---	T
Baird's sparrow	<i>Ammodramus bairdii</i>	---	T
New Mexican jumping mouse	<i>Zapus hudsonius luteus</i>	---	T
Common ground-dove	<i>Columbina passerina passerina</i>	---	E
Plants			
Pecos sunflower	<i>Helianthus paradoxus</i>	T	R
La Jolla prairie clover	<i>Delea scariosa</i>	---	R
Yeso twinpod	<i>Physaria newberry var.</i>	---	R
Laguna fame flower	<i>Telinum brachypodium</i>	---	R

- ^a **Endangered Species Act (ESA)** (as prepared by U.S. Fish and Wildlife Services) **status:** Only Endangered and Threatened species are protected by the ESA.
E= Endangered: any species that is in danger of extinction throughout all or a significant portion of its range.
T= Threatened: any species that is likely to become and endangered species within the foreseeable future throughout all or a significant portion of its range.
C= Candidate: taxa for which the Services has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.
SC= Species of Concern: taxa for which information now in the possession of the Service indicates that proposing to list as endangered or threatened is possible appropriate, but for which sufficient data on biological vulnerability and threat are not currently available to support proposed rules.
P= Proposed for listing in the identified category listed above.
S/A= Similarity of Appearance.

- ^b **State of New Mexico status:**
E= Endangered Animal species whose prospects of survival or recruitment within the state are in jeopardy.
T= Threatened Animal species whose prospects of survival or recruitment within the state are likely to become jeopardized in the foreseeable future.

SC= Species of Special Concern.

Special status animal species listed by USFWS (USFWS County list for Valencia) and New Mexico Department of Game and Fish for Valencia County (BISON, NM&F; December 2002) that might occur in or near the project area but are not anticipated to occur include the following:

The Bald eagle (*Haliaeetus leucocephalus*), a Federal and State Threatened species, is normally found near major waterways and larger lakes where adequate food supplies may be found. The Bald Eagle is known to occur in New Mexico primarily during the late fall and winter months. The Bald Eagle utilizes large trees for perching and forages primarily for fish, ducks, and carrion along rivers and at local reservoirs. Although the Bald eagle may fly over the construction area, there is no preferred habitat present. Due to the ease of mobility of the Bald eagle and the limited disturbance of the proposed project, there would be no effect to the Bald eagle.

The Mexican spotted owl (*Strix occidentalis lucida*) is a Federal and State Threatened species. Habitat consists of caves, cliff ledges, witches' broom, and stick nests of other species in mature and old growth forest associated with steep canyons. This preferred habitat consists of mixed conifers; however they can be found in pinyon-juniper, pine-oak, and ponderosa pine. It has been recorded at elevations of 3,700 to 10,000 feet. The owl has not been reported recently along major riparian corridors in Arizona and New Mexico, nor in historically documented areas of southern Mexico. Riparian communities and previously occupied localities in the Southwestern and southern Mexico have undergone significant habitat alteration since the historical sightings (USDI FWS Southwestern Region T&E Species List, 2001). A site visit by USACE personnel on 17 September 2003 did not reveal any suitable habitat for the Mexican spotted owl at the project site. The habitat present in the project area includes gravel, landscape material and vegetation common to disturbed areas. Due to the lack of suitable habitat, it is not likely that this species would occur within the project area. Therefore, there would be no effect to the Mexican spotted owl.

The Rio Grande silvery minnow (*Hybognathus amarus*), a Federal and State Endangered species, occurs in the Rio Grande in Valencia County. Historically, this fish species occurred throughout the Rio Grande basin in New Mexico and Texas. Critical habitat was designated in 1993, which is located in the Rio Grande from just downstream of Cochiti Dam to the headwaters of Elephant Butte Reservoir, New Mexico, occupying about five percent of its known historic range. Rio Grande silvery minnows generally prefer shallow water habitats with habitats with water less than 40cm, and water velocity less than 10cm/sec (USDI FWS Southwestern Region T&E Species List, 2001). However, the proposed project area is located several miles from the Rio Grande and would have no effect to the Rio Grande. Therefore, there would be no effect to this species by the proposed construction.

The Southwestern willow flycatcher (*Empidonax traillii extimus*), a Federal and State Endangered species, usually inhabits dense willow stands near perennial streams or other water sources and may also utilize dense salt cedar or shrubby areas with a dense canopy cover of large riparian trees such as cottonwoods. There is no designated critical habitat for southwestern willow flycatcher in or near the proposed construction area. There is no flycatcher habitat, i.e., willows, salt cedar, shrubs, in the immediate vicinity of the construction area, and due to the ease

of mobility of this species and limited disturbance of the proposed project, there would be no effect to this species by the proposed construction.

The Whooping crane (*Grus americana*) is a State Endangered species that is associated with marshes, shallow river bottoms, potholes, prairies, and agricultural fields. In New Mexico they generally winter around Bosque del Apache in association with sandhill cranes. They typically feed in the agricultural fields or wetlands and roost on sand bars in the Rio Grande. Within the project area, agricultural fields are present. However, the proposed construction would take place within street rights-of-way and would not affect agricultural fields. Due to the ease of mobility of the Whooping crane and the limited disturbance of the proposed project, there would be no effect to this species by the proposed project.

The Mountain plover (*Charadrius montanus*), a State Threatened species, is known to occur within Valencia County. Preferred habitat includes expansive dry short-grass prairie such as high plains and semidesert tablelands having a high proportion of bare ground (>30 percent) for nesting. Typically associated plants include blue grama, buffalo grass, and scattered cacti or forbs. In New Mexico, the species may be found nesting in open plains, mesas, or dry playas (lake bed flats). Mountain plovers commonly nest in/near prairie dog towns. There is no mountain plover habitat in the immediate vicinity of the construction area, and due to the ease of mobility of this species and limited disturbance of the proposed project, there would be no effect to this species by the proposed construction.

The Common ground-dove (*Columbina passerina pallescens*), a State Endangered species, is known to occur in Valencia County. Preferred habitat includes agricultural and undeveloped areas. Within the project area, agricultural fields are present. However, the proposed construction would take place within street rights-of-way and would not affect agricultural fields. All work would be done in developed areas. Due to the ease of mobility of this species and the limited disturbance of the proposed project, there would be no effect to this species.

The Neotropic cormorant, (*Phalacrocorax brasilianus*), a State Threatened species, is known to occur on larger bodies of water such as reservoirs. However, they are considered rare to uncommon in the middle and lower Rio Grande valleys. Although this species is not known to occur in the middle Rio Grande valley, the project area is located several miles east from the Rio Grande. Therefore, there would be no effect to this species.

The Common black-hawk, (*Buteogallus anthracinus anthracinus*), a State Threatened species, is found in areas that include lowland riparian, arroyo riparian, and marsh. Since none of the above habitat is present at or near the proposed project site and due to the limited disturbance accorded by the proposed project, this species would not be affected.

The Baird's sparrow, (*Ammodramus bairdii*), a State Threatened species, is found in a variety of habitats, ranging from desert grasslands in southern New Mexico, prairies in the northeast, and mountain meadows in the San Juan and Sangre de Cristo mountains. Since none of the above habitat is present at or near the proposed project site and due to the limited disturbance accorded by the proposed project, this species would not be affected.

disturbance of the proposed project, this species would not be affected.

The New Mexican jumping mouse, (*Zapus hudsonius luteus*), a State Threatened species, is primarily associated with riparian habitats in open prairie. Although this species is a common presence in Valencia County, there is no preferred habitat within the project area. Due to the absence of suitable habitat in the immediate vicinity of the construction area, ease of mobility of this species, and limited disturbance of the proposed project, there would be no effect to this species by the proposed construction.

The New Mexico Department of Minerals, Natural Resources, Forestry Division has the responsibility for maintaining the list of state-listed endangered plant species. The State species list indicates that there are four status plant species that occur in Valencia County, the Pecos sunflower (*Helianthus paradoxus*), La Jolla prairie clover (*Delea scariosa*), Yeso twinpod (*Physaria newberry* var. *yesicola*), and Laguna fame flower (*Telinum brachypodium*). They are each listed by the State of New Mexico Division of Forestry as an endangered plant on the (New Mexico Rare Plants Technical Council Website-<http://nmrareplants.unm.edu/>). Although these plants are known to occur in Valencia County, they are not likely to occur within the project area. Two of these plants, the Yeso twinpod and Laguna fame flower, are known to occur only in western Valencia County. Their preferred habitat is shortgrass steppe/juniper savanna and pinon juniper woodland, respectively. These habitats are not present within the project area. Due to the location and absence of suitable habitat within the project area, there would be no effect to the Yeso twinpod and Laguna fame flower. The Pecos sunflower is often associated with desert springs or wetlands created from modifying desert springs. There is no suitable habitat within the project area, and therefore there would be no effect to the Pecos sunflower. The La Jolla prairie clover is known to occur in open sandy clay banks and bluffs, often along roadsides. Although this habitat occurs within the project area, the plant was not seen during the Corps site visit on 17 September 2003. The vegetation that exists within the street right-of-way is low quality.

3.3 Cultural Resources

On September 17 and October 17, 2003, U.S. Army Corps of Engineers (Corps), Albuquerque District archaeologists conducted an intensive cultural resources inventory of approximately 6.07 hectares (15 acres) within the Village of Bosque Farms, Valencia County, New Mexico. These surveys were conducted in anticipation of construction of a Wastewater Collection System Improvements Project for the Village of Bosque Farms under Section 593 of the Water Resources Development Act of 1996 (Public Law 99-662; 33 U.S.C. 2201 *et seq.*), as amended. The project will include installation of pressurized sewer lines, grinder pumps, cleanouts, and associated staging areas for construction and equipment and materials. On October 17th, three staging areas were proposed, which include two existing well areas (Well #1 and Well #2), and a parcel south of the Wastewater Treatment Plant. Corps archaeologists commenced and completed the cultural resources inventories for the staging areas.

The project will entail intensive and extensive ground disturbance activities within the existing street right-of-ways. Encompassing approximately 31 streets, construction will involve trenching of pavement and/or dirt material fill, installation of sewer lines, grinder pumps, cleanouts, and replacement asphalt pavement/dirt material fill, replacement of surface water

drainage systems (which include curb and gutter), and other miscellaneous construction work.

Prior to the September 17th survey, a search of the New Mexico Historic Preservation Division's (NMHPD) Archaeological Records Management Section (ARMS) database, and of the State Register of Cultural Properties and the National Register of Historic Places was conducted. The records check revealed nine cultural resource locations within or adjacent to the project area. Two archaeological sites (LA 104179 and LA 104180) were reported within and adjacent to the vicinity of the proposed Bosque Farms construction areas. LA 104179, Acequia Del Bosque, and LA 104180, Peralta Middle Ditch (Acequia del Medio) are historic irrigation systems; the former dates back to 1910 while the latter dates beyond 1850 (Marshall 1994). Four archaeological sites, located on the Isleta Pueblo Reservation, are adjacent to the Bosque Farms project area. These sites are LA 76017 (possible adobe structure), LA 76018 (historic trash), LA 76019 (historic trash with petroglyph), and LA 76020 (possible adobe structure), recorded by Marshall (1990) for an Isleta Pueblo Drainage Project. Documentation indicates that determinations of eligibility have been made for LA 76017, LA 76018, LA 76019, and LA 76020. The sites were determined to be eligible under 36.CFR 60.4.

Also within the project area are three (previously identified and documented) state of New Mexico Registered Sites. These sites consist of three historic buildings, which are formally named as the Bosque Cooperative Building (HPD No. 1632), located at 1325 West Bosque Loop; the Dust Bowl Home (HPD No. 1409), located at 930 South Bosque Loop; and the Woodall House (HPD No. 1789), located at 1090 North Bosque Loop. None of these state-registered buildings would be affected by constructions.

Although prehistoric peoples utilized the area, no prehistoric archaeological sites were documented within the immediate vicinity of the project area (Bosque Farms). However, prehistoric sites do exist and are located on the surrounding periphery of the project area.

One irrigation canal system (acequia) will be involved by the undertaking, the Braught Lateral Acequia. The proposed sewer construction will avoid the Braught Lateral Canal by utilizing an underground directional (horizontal) burrowing process. The canal's structural integrity will be safeguarded by subsurfacing the sewer line under the canal. In addition to protecting the canal's integrity, there will be no interruption to the flow of the canal and any possible contamination of the irrigation water will be avoided. Despite other historic acequias located in the area, Ackerly *et al.* (1997) cited the Braught Lateral Acequia, as a contemporary canal (less than 50 years old). Therefore, the canal was not eligible to the National Register of Historic Places (NRHP).

As mentioned, two historical sites (LA 104179 and LA 104180) were reported within the vicinity of the proposed Bosque Farms construction areas. The sites, LA 104179, Acequia Del Bosque, and LA 104180, Peralta Middle Ditch (Acequia Del Medio) are historic irrigation systems; the former dates back to 1910 while the latter dates beyond 1850 (Marshall 1994). The Braught Lateral is a component of the Otero Lateral and is not directly associated to Acequia Del Bosque and Peralta Middle Ditch canal system. Marshall and Marshall (1992) reported on irrigation and drainage canals between Isleta South to the La Joya area for the MRGCD. Another Marshall project (1990) reported the results of a survey along El Camino Real de Tierra Adentro (the Royal Road within the Interior), a national historic trail that transverses south to

north on Highway 47.

No other properties are reported near the proposed construction areas and no artifacts or cultural resource manifestations were observed during the surveys of the construction areas.

Therefore, the Corps is of the opinion that there would be “No Historic Properties Affected” by the proposed undertakings or on the historic and cultural resources of the region.

Should previously undiscovered artifacts or features be unearthed during construction, work would be stopped in the immediate vicinity of the find, a determination of significance made, and a mitigation plan formulated in coordination with the New Mexico State Historic Preservation Office. Consultation with the New Mexico State Historic Preservation Officer is documented in Appendix A (once received).

3.4 Land Use and Socioeconomic Considerations

The Village of Bosque Farms is located in Valencia County, New Mexico. The total population of Valencia County in 2002 was estimated to be 67,578 (2000 U.S. Census Bureau). The total population of Bosque Farms in 2002 was estimated to be 3,920 (2000 U.S. Census Bureau). The ethnic breakdown for Valencia County is: Hispanic (any race), 55%; white (non-Hispanic), 39.4%; black (non-Hispanic), 1.3%; and other, 4.28%. In 2000, the per capita personal income in Valencia County was \$19,182. The annual average wage/salary per job was \$22,179 (U.S. Department of Commerce, Bureau of Economic). The unemployment rate for Valencia County in 2002 was 4.8% (New Mexico Department of Labor). Industries making major economic contributions to the county’s economy include agriculture, manufacturing, and transportation & warehousing. Major crops include hay, corn, and alfalfa. Federal, state, and local governments are the largest employers in the county.

The proposed project would take place entirely within residential areas. All construction would be limited to the street right-of-way. Adjacent property includes agricultural/residential, conventional single-family residential, mixed single-family/mobile home residential, and community commercial. The proposed project would not affect land use or socioeconomic resources in the project area.

3.5 Environmental Justice

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations; February 11, 1994) was designed to focus the attention of Federal Agencies on the human health and environmental conditions of minority and low-income communities. It requires Federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations and proposed actions. In an accompanying memorandum, President Clinton emphasized that existing laws, such as the National Environmental Policy Act (NEPA), should provide an opportunity for federal agencies to assess the environmental hazards and socioeconomic impacts associated with any given agency action upon minority and low-income communities. In April of 1995, the EPA released a guidance document entitled *Environmental Justice Strategy: Executive Order 12898*. In short, this document defines the approaches by which the EPA will ensure that disproportionately high

environmental and/or socioeconomic effects on minority and low-income communities are identified and addressed. Further, it establishes agency wide goals for all Native Americans with regard to Environmental Justice issues and concerns.

Bosque Farm's wastewater treatment plant upgrade and wastewater collection lines would be conducted under Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 et seq.) as amended. This program is largely intended to provide needed assistance (technical, financial, etc.) to communities in which water resources are degrading and in need of improvement. As such, the project will benefit many minority and low-income communities. All of Bosque Farms would be improved. No communities would be left out. The no action alternative would potentially create an environmental justice issue with the affected residents of the Village of Bosque Farms and would potentially be in conflict with Executive Order 12898 of 1994 addressing environmental justice in the NEPA process. The no action alternative would exclude those residents who are still using septic systems and possibly facing public health concerns and potential for groundwater contamination.

3.6 Cumulative Impacts

NEPA defines cumulative effects as "...the impact on the environment which results from the incremental impact of the action when added to other, past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

The footprint of the proposed project lies within an urban/semi-urban residential area that has little, if any, resemblance to what was present prior to urbanization. Since the construction work primarily involves the addition of wastewater facilities, most environmental impacts associated with the proposed project would have occurred from previous development activities. These impacts have stabilized and have been considered the baseline against which impacts of the proposed project have been compared. Construction of new wastewater collection lines and upgrade to the wastewater treatment plant would occur entirely on street rights-of-way or already disturbed/developed ground. This would not significantly impact the current conditions of the local environment. Positive wastewater service improvements are anticipated to occur from the proposed project that would enhance the quality of life for residents in the area. For these reasons, the proposed project when combined with past, present, or future activities in the Village of Bosque Farms would not significantly add to or raise local cumulative environmental impacts to a level of significance.

4.0 CONCLUSIONS AND SUMMARY

The proposed action evaluated in this draft EA addresses the method and potential effects for the construction of wastewater collection lines and the wastewater treatment plant upgrade.

Due to the previously disturbed and urban nature of the project area, impacts to the environment would be insignificant and short-term. This proposed project would alleviate some of the current groundwater contamination and associated health concerns that are occurring due to on-site disposal systems. This proposed project would not result in any moderate or significant, short-term, long-term, or cumulative adverse effects. Therefore, construction of the

proposed project would not significantly affect the quality of the human environment.

5.0 PREPARATION, CONSULTATION AND COORDINATION

5.1 Preparation

This Environmental Assessment (EA) was prepared for the Village of Bosque Farms by the U.S. Army Corps of Engineers, Albuquerque District (USACE). Personnel primarily responsible for preparation include:

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5.2 General Consultation and Coordination

Agencies and entities contacted formally or informally in preparation of this Draft Environmental Assessment include:

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Appendix A
Cultural Resources Report

Appendix B
Site Visit Photos



Site of channel crossing



Braught Lane – Phase VIII and IX



Edgewood Rd. – Phase VIII and IX



Garcia Ln. and Del Norte Ct. – Phase VIII



Appaloosa Pl. and W. Bosque Loop – Phase VI



Green Rd. and Cole Rd.

Appendix C
Biological Coordination

Appendix D
Public Review Comments